

cofc

09/550103



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application : Richard C. Deth
 Patent No. : 6,773,892
 Issued : August 10, 2004
 For : METHODS OF IDENTIFYING AND DETERMINING
 THE EFFECTIVENESS OF THERAPEUTIC
 PROCESSES OR AGENTS FOR THE TREATMENT
 OF SCHIZOPHRENIA AND RELATED DISORDERS
 Attorney's Docket : NU-431AX

 I hereby certify that this correspondence is being deposited
 with the United States Postal Service as first class mail in an
 envelope addressed to: ATTN: Certificates of Correction
 Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
 on July 21, 2005.

By: Holliday C. Heine
 Holliday C. Heine, Ph.D.
 Registration No. 34,346
 Attorney of Record

L E T T E R

Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450
 ATTN: Certificates of Correction

Certificate
JUL 28 2005
 of Correction

Sir:

Enclosed are two completed copies of Form PTO 1050. It is
 requested that a Certificate of Correction be issued to correct
 the mistakes of the Patent Office in the printing of the above-
 identified patent.

JUL 29 2005

In order for timely expedition of this request, enclosed is a copy of the Notice of Allowance received from the Patent Office dated March 31, 2004. The Notice indicates the Examiner's Amendment to original claim 5, now indicated as claim 1. Also enclosed is a copy of our Submission of Sequence Listing dated August 22, 2001 which indicated that a computer readable form (CFR) copy of the Sequence Listing and a paper copy of the Sequence Listing was filed with the Patent and Trademark Office.

Respectfully submitted,

RICHARD C. DETH

By: Holliday C. Heine
Holliday C. Heine, Ph.D.
Registration No. 34,346
Attorney of Record

WEINGARTEN, SCHURGIN,
GAGNEBIN & LEBOVICI LLP
Ten Post Office Square
Boston, Massachusetts 02109
Telephone: (617) 542-2290
Telecopier: (617) 451-0313

HCH/doc
Enclosures
324102

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTIONPATENT NO : 6,773,892
DATED : August 10, 2004
INVENTOR(S) : Richard C. Deth

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 4, line 21, "G₅" should read --G_s--;

Column 10, after line 2, please insert the Sequence Listing as follows:

SEQUENCE LISTING

<110> Deth, Richard C.

<120> METHODS OF IDENTIFYING AND DETERMINING
THE EFFECTIVENESS OF THERAPEUTIC PROCESSES OR AGENTS FOR THE
TREATMENT OF SCHIZOPHRENIA AND RELATED DISORDERS

<130> NU-431AX

<140> 09/550,103

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<170> FastSEQ for Windows Version 4.0

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<212> PRT

<213> Homo sapien.

MAILING ADDRESS OF SENDER:

Weingarten, Schurgin, Gagnebin & Lebovici LLP
Ten Post Office Square
Boston, Massachusetts 02109

PATENT NO. 6,773,892

No. of additional copies

0



Burden Hour Statement: This form is estimated to take 1.0 hour to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22323-1450.

NU-431AX/324089

Page 1 of 4

JUL 29 2005

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 6,773,892
DATED : August 10, 2004
INVENTOR(S) : Richard C. Deth

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

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Leu Leu Leu Tyr Trp Ala Thr Phe Arg Gly Leu Gln Arg Trp Glu Val

```

MAILING ADDRESS OF SENDER:

Weingarten, Schurgin, Gagnebin & Lebovici LLP
Ten Post Office Square
Boston, Massachusetts 02109

PATENT NO. 6,773,892

No. of additional copies

0



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NU-431AX/324089

Page 2 of 4

JUL 29 2005

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 6,773,892
DATED : August 10, 2004
INVENTOR(S) : Richard C. Deth

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

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MAILING ADDRESS OF SENDER:

Weingarten, Schurgin, Gagnebin & Lebovici LLP
Ten Post Office Square
Boston, Massachusetts 02109

PATENT NO. 6,773,892

No. of additional copies

0



Burden Hour Statement: This form is estimated to take 1.0 hour to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22323-1450.

NU-431AX/324089

Page 3 of 4

JUL 29 2005

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control Number

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTIONPATENT NO : 6,773,892
DATED : August 10, 2004
INVENTOR(S) : Richard C. Deth

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 10, claim 1, line 4, please insert new claim 1 as follows:

--A method of identifying an agent for treating schizophrenia or a related neuropsychiatric disorder wherein said related neuropsychiatric disorder has the feature of involving modification of dopamine D4 receptor-linked phospholipid methylation and wherein said method comprises the steps of:

(a) establishing an assay system comprising a cultured cell line, said cultured cell line either naturally expressing D4 receptors or transfected with the D4 receptor gene;

(b) making an initial determination of the level of phospholipid methylation in cells of said cell line;

(c) administering to cells of said cell line the candidate agent to be assessed;

(d) making a subsequent determination of the level of phospholipid methylation in cells of said cell line; and

(e) comparing the corresponding levels of phospholipid methylation from steps (b) and (d), wherein an increase in the level of phospholipid methylation subsequent to administration of the candidate agent indicates that the agent is potentially therapeutically effective for treating schizophrenia or said related neuropsychiatric disorder.--.

MAILING ADDRESS OF SENDER:

Weingarten, Schurgin, Gagnebin & Lebovici LLP
Ten Post Office Square
Boston, Massachusetts 02109

PATENT NO. 6,773,892

No. of additional copies

0



Burden Hour Statement: This form is estimated to take 1.0 hour to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22323-1450.

NU-431AX/324089

Page 4 of 4

JUL 29 2005



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov



NOTICE OF ALLOWANCE AND FEE(S) DUE

207

03/31/2004

WEINGARTEN, SCHURGIN, GAGNEBIN & LEBOVICI
LLP
TEN POST OFFICE SQUARE
BOSTON, MA 02109

BY:

RECEIVED

APR 02 2004

EXAMINER

WEGERT, SANDRA L

ART UNIT

PAPER NUMBER

1647

DATE MAILED: 03/31/2004

WEINGARTEN, SCHURGIN,
GAGNEBIN & LEBOVICI LLP

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/550,103 | 04/14/2000 | Richard C. Deth | NU-431AX | 8235 |

TITLE OF INVENTION: METHODS OF IDENTIFYING AND DETERMINING THE EFFECTIVENESS OF THERAPEUTIC PROCESSES OR AGENTS FOR THE TREATMENT OF SCHIZOPHRENIA AND RELATED DISORDERS

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE | PUBLICATION FEE | TOTAL FEE(S) DUE | DATE DUE |
|----------------|--------------|-----------|-----------------|------------------|------------|
| nonprovisional | YES | \$665 | \$0 | \$665 | 06/30/2004 |

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status.
See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

29 2005



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/550,103 | 04/14/2000 | Richard C. Deth | NU-431AX | 8235 |
| 207 | 7590 | 03/31/2004 | | |

WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI
LLP
TEN POST OFFICE SQUARE
BOSTON, MA 02109

| | |
|------------------|--|
| EXAMINER | |
| WEGERT, SANDRA L | |

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
| 1647 | |

DATE MAILED: 03/31/2004

Determination of Patent Term Extension under 35 U.S.C. 154 (b)

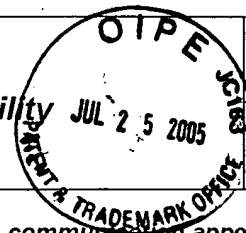
(application filed after June 7, 1995 but prior to May 29, 2000)

The Patent Term Extension is 0 day(s). Any patent to issue from the above-identified application will include an indication of the 0 day extension on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability

Application No.

09/550,103

Examiner

Sandra Wegert

Applicant(s)

DETH, RICHARD C.

Art Unit

1647

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/20/03.
2. ☒ The allowed claim(s) is/are 5-9 (renumbered as 1-50).
3. ☒ The drawings filed on 14 April 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

The affidavit under 37 CFR 1.132, filed 23 October 2003, is sufficient to overcome the rejection of Claims 5-9 based upon 35 USC 112, first paragraph.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Holliday Heine on 23 March 2004.

The application has been amended as follows:

Claims 1-4 have been canceled without prejudice.

The application has been amended as follows:

Please replace Claim 5 with the following:

5. (Currently Amended) A method of identifying an agent for treating schizophrenia or a related neuropsychiatric disorder wherein said related neuropsychiatric disorder has the feature of involving modification of dopamine D4 receptor-linked phospholipid methylation and wherein said method comprises the steps of:

(a) establishing an assay system comprising a cultured cell line, said cultured cell line either naturally expressing D4 receptors or transfected with the D4 receptor gene;

Art Unit: 1647

(b) making an initial determination of the level of phospholipid methylation in cells of said cell line;

(c) administering to cells of said cell line the candidate agent to be assessed;

(d) making a subsequent determination of the level of phospholipid methylation in cells of said cell line; and

(e) comparing the corresponding levels of phospholipid methylation from steps (b) and

— (d), wherein an increase in the level of phospholipid methylation subsequent to administration of the candidate agent indicates that the agent is potentially therapeutically effective for treating schizophrenia or said related neuropsychiatric disorder.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

The Invention of the instant Application is a method of identifying therapeutic agents useful for the treatment of schizophrenia or related neuropsychiatric disorders, by using cultured cell lines transfected with the D4 dopamine receptor gene or by using naturally-occurring cells, such as lymphocytes, comprising the D4 receptor (see, for example: Sharma, et al., 1999, Mol. Psychiatry, 4:235-246.). The Specification describes the relationship between the D4 receptor and phospholipid methylation in cells comprising the receptor. Agents identified by the methods described would be expected to increase the amount of phospholipid methylation to normal levels. The claims are free of the prior art as the method has not been described

Art Unit: 1647

previously, except in the Patent from which the instant Application claims priority (US Patent 6,080,549). The specification provides experimental evidence of utility and enablement under 35 U.S.C. 112, first paragraph. The claims also meet 35 U.S.C. 112- second paragraph requirements because the claims point out and distinctly claim the invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Advisory information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra Wegert whose telephone number is (571) 272-0895. The examiner can normally be reached Monday - Friday from 9:00 AM to 5:00 PM (Eastern Time). If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Gary Kunz, can be reached at (571) 272-0887.

The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Application/Control Number: 09/550,103

Page 5

Art Unit: 1647

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SLW

23 March 2004

Elizabeth C. Kemmerer

ELIZABETH KEMMERER
PRIMARY EXAMINER



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application : Richard C. Deth
Application No. : 09/550,103
Filed : April 14, 2000
For : METHODS IDENTIFYING AND DETERMINING THE
EFFECTIVENESS OF THERAPEUTIC PROCESSES
OR AGENTS FOR THE TREATMENT OF
SCHIZOPHRENIA AND RELATED DISORDERS
Examiner : Turner, S.
Attorney's Docket : NU-431AX

Group Art Unit: 1647

* * * * *
I hereby certify that this correspondence is being deposited with
the United States Postal Service as first class mail in an
envelope addressed to: Box Sequence, Commissioner for Patents,
Washington, D.C. 20231 on Aug. 22, 2001.

By Holliday C. Heine
Holliday C. Heine, Ph.D.
Registration No. 34,346
Attorney for Applicants

* * * * *

SUBMISSION OF SEQUENCE LISTING

Box Sequence
Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the communication from the Examiner dated
June 22, 2001 (copy enclosed), enclosed herewith is a Sequence
Listing for the above-identified patent application, including the
following items:

- a computer readable form (CFR) copy of the Sequence Listing
- a paper copy of the Sequence Listing

Appl. No.: 09/550,103
Filed: April 14, 2000
Group Art Unit: 1647

an amendment directing entry of the Sequence Listing into the specification

The undersigned Applicants' representative hereby states that the contents of the paper and computer readable copies are the same and include no new matter as required by 37 CFR 1.821(e) (f) (g) and 1.825(b) (d). The General Information portion of the sequence listing has been updated so as to contain information pertaining to the present application and to the priority application being claimed.

Respectfully submitted,

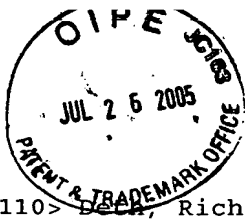
RICHARD C. DETH

By Holliday C. Heine
Holliday C. Heine, Ph.D.
Registration No. 34,346
Attorney for Applicants

WEINGARTEN, SCHURGIN, GAGNEBIN
& HAYES LLP
Ten Post Office Square
Boston, Massachusetts 02109

Telephone: (617) 542-2290
Telecopier: (617) 451-0313

HCH/raw
Enclosures
256996-1



SEQUENCE LISTING

<110> DECA, Richard C.

<120> METHODS OF IDENTIFYING AND DETERMINING
THE EFFECTIVENESS OF THERAPEUTIC PROCESSES OR AGENTS FOR THE
TREATMENT OF SCHIZOPHRENIA AND RELATED DISORDERS

<130> NU-431AX

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| Pro Gly Pro Pro Ser | Pro Thr Pro Pro Ala | Pro Arg Leu Pro Gln Asp | | |
| | 245 | 250 | | 255 |
| Pro Cys Gly Pro Asp | Cys Ala Pro Pro Ala | Pro Gly Leu Pro Pro Asp | | |
| | 260 | 265 | | 270 |
| Pro Cys Gly Ser Asn | Cys Ala Pro Pro Asp | Ala Val Arg Ala Ala Ala | | |
| | 275 | 280 | | 285 |
| Leu Pro Pro Gln Thr | Pro Pro Gln Thr Arg | Arg Arg Arg Arg Ala Lys | | |
| | 290 | 295 | | 300 |
| Ile Thr Gly Arg Glu | Arg Lys Ala Met Arg | Val Leu Pro Val Val Val | | |
| 305 | 310 | 315 | | 320 |
| Gly Ala Phe Leu Leu | Cys Trp Thr Pro Phe | Phe Val Val His Ile Thr | | |
| | 325 | 330 | | 335 |
| Gln Ala Leu Cys Pro | Ala Cys Ser Val Pro | Pro Arg Leu Val Ser Ala | | |
| | 340 | 345 | | 350 |
| Val Thr Trp Leu Gly | Tyr Val Asn Ser Ala | Leu Asn Pro Val Ile Tyr | | |
| | 355 | 360 | | 365 |
| Thr Val Phe Asn Ala | Glu Phe Arg Asn Val | Phe Arg Lys Ala Leu Arg | | |
| | 370 | 375 | | 380 |
| Ala Cys Cys | | | | |
| 385 | | | | |